

Geometry Date_____ 2.6 Assignment
Proving Statements about Angles (pp 109-112)

1. What is your name?

Sketch the given information. Label all angles which can be determined.

2. Vertical angles which measure 115° .

3. A linear pair where one angle measures 115° .

4. Congruent complementary angles.

5. Supplementary angles where one angle measures 115° .

Complete the statement given that

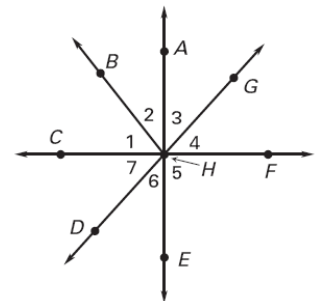
$$m\angle BHD = m\angle CHE = m\angle EHF = 90^\circ.$$

6. If $m\angle 1 = 37^\circ$, find $m\angle 6$.

7. If $m\angle EHG = 132^\circ$, find $m\angle 7$.

8. If $m\angle 7 = 51^\circ$, then find $m\angle 3$.

9. If $m\angle EHB = 153^\circ$, then find $m\angle 2$.

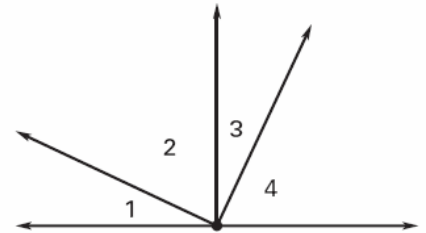


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10. Complete the proof.

Given: $\angle 1$ & $\angle 2$ are complementary. $\angle 1 \cong \angle 3 \cong \angle 4$.

Prove: $\angle 3$ & $\angle 4$ are complementary.

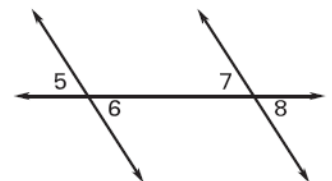


Statement	Reason
	Given
$m\angle 1 + m\angle 2 = 90^\circ$	
$\angle 1 \cong \angle 3, \angle 2 \cong \angle 4$	
	Definition of Congruent Angles
$m\angle 3 + m\angle 2 = 90^\circ$	
$m\angle 3 + m\angle 4 = 90^\circ$	
	Definition of Complementary Angles

11. Write a two column proof.

Given: $m\angle 6 = m\angle 7$

Prove: $\angle 5 \cong \angle 8$



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12. Write a paragraph for the previous problem.

Review.

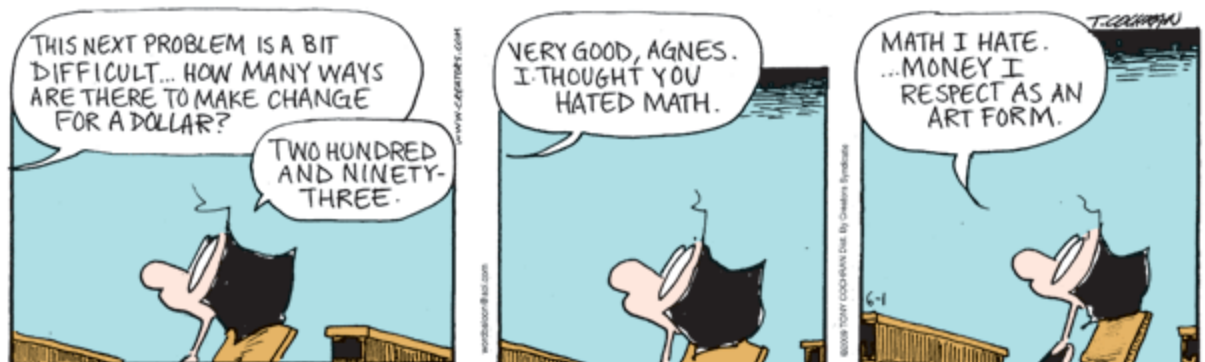
$m\angle 1$ and the relationship of $\angle 1$ to $\angle 2$ is given. Find $m\angle 2$. (Chapter 1 Section 6)

13. $m\angle 1 = 62^\circ$, complementary to $\angle 2$.

14. $m\angle 1 = 8^\circ$, supplementary to $\angle 2$.

15. $m\angle 1 = 47^\circ$, complementary to $\angle 2$.

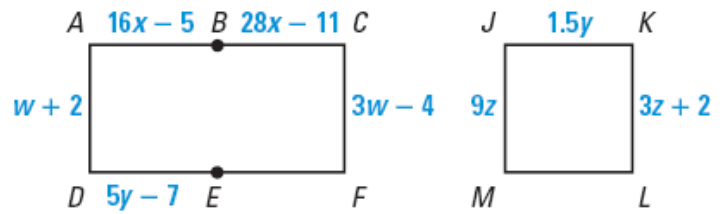
16. The definition of perpendicular lines states that if two lines are perpendicular, then they intersect to form a right angle. Is the converse true? Explain. (Chapter 2 Section 2)



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Use the diagram and the given information to solve for the variable. (Chapter 2 Section 5)

17. $\overline{AD} \cong \overline{EF}, \overline{EF} \cong \overline{CF}$



18. $\overline{AB} \cong \overline{EF}, \overline{EF} \cong \overline{BC}$

19. $\overline{DE} \cong \overline{EF}, \overline{EF} \cong \overline{JK}$

20. $\overline{JM} \cong \overline{ML}, \overline{ML} \cong \overline{KL}$

